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AUTHOR Kay, Herbert
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ABSTRACT

The search for a reliable measure of anxiety constitutes the basis for the research discussed in this report. Possible influences on responses to self-report questionnaires are discussed and "Unwitting Defensiveness" is stressed as being one of the main contaminants of anxiety measurement. The test procedure used on successful and unselected applicants for positions in commission sales is outlined. Two scores for each applicant were devised: the first as a measure of underlying anxiety. Scores were classified as secure, average or insecure. Discussion of the study's results indicates that the second measure displayed more insecure applicants than the first: many insecure cases can be missed by using the outward measure alone: and anxiety measurement serves to sharpen test accuracy and to predict the effects of stress on future performance. The correlation of applicant security with variables such as compliance, verbal reasoning, and ambition is also documented. In conclusion, the failure of anxiety tests to demonstrate that they evince stress reactions normally associated with tests is highlighted, and the need for further research is emphasized. (AEF)

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SURFACE vs. UNDERLYING ANXIETY

by

Herbert Kay
Herbert Kay Research, Inc.
401 Pleasant Valley Way
West Orange, NEW JERSEY 07052

U. S. A.

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Most research on anxiety appears to have been done with self-report questionnaires using items of manifest content, that is, items whose psychological significance is fairly easy for the respondent to deduce. "Social desirability" has been recognized as one possible bias affecting self-report data. In their review of the literature, Fiske & Pearson (1) stated: "The majority view concerning the role of social desirability and acquiescence tends to be that such sets do in fact exist, but do not appear to be as pervasive as once supposed." In other words, testees for the most part really tend to give truthful, accurate answers.

My own experience, over almost three decades, leads me to quite the opposite, if less prevalent, view: when a test is susceptible to false self-reports, many test-takers will give false self-reports, either deliberately or unwittingly. I am not pleased with the term "social desirability" because it tends to obscure what is really going on. For one thing, faking is what most psychometricians tend to think of in connection with social-desirability bias. But there is another kind of bias which we have found to be important. It is UNWITTING defensiveness. Unwitting self-deception is well recognized not only in the clinical literature but in everyday discourse. Some people have very poor self-insight, have a distorted picture of who and what they really

are. We all know this. But somehow psychometricians have tended to assume that this variable suddenly ceases to exist when people sit down to fill out a questionnaire.

What can the researcher do to combat faking? Often enough, the solution is to admonish the testee to "please answer honestly". Does that work? Our experience (using a refined method of fake detection) indicates that, at least with job applicants, this actually stimulates testees to try even harder to fake. And the reason is not hard to figure out: when you ask someone not to fake, you really are telling him that you have no way of preventing it. In America, at least, four things are regarded as sacred: God, mother, country, and trying to beat the test.

One might argue that faking is not important when there is no apparent strong motivation to fake---for example, when one is participating on a research project. I'm not so sure of that. But in any event, we still are left with a formidable bias: unwitting defensiveness. No amount of urging is going to succeed in getting a test-taker to answer honestly when he is not aware that he has an inaccurate picture of himself. That is why I am convinced that research studies which ostensibly involve no threat to the test-taker nonetheless can suffer from unwitting deception if not intentional faking as well. Many years ago as a graduate student, I developed an anxiety test whose purpose under research conditions could be more or less totally disguised (2). It was administered to a group of college students with a totally-disguised introduction, and they answered anonymously. A second group of students, likewise answering without putting down their names, was told

simply that they were filling out "a psychological test"; under that introduction, their anxiety scores dropped significantly from the first group. And when still another group of students was told that it was an anxiety test, the mean dropped still further, that is, to a less-anxious level.

To summarize my point: I submit that human beings do not suddenly change their nature when we ask them questions printed on a piece of paper rather than orally. On the contrary, the printed question makes it EASIER to give intentionally or unwittingly deceptive answers, because we are not able to observe and interact with the respondent and challenge him when he is marking X's on a piece of paper.

The purpose of today's sessions, as stated in the April Newsletter of this Symposium, is to regard anxiety as a potential contaminating influence on the test performance of the individual. I would argue that we must take one step further backward and regard deliberate or unwitting defensiveness as a pervasive contaminant of anxiety measurement. Until we can clean up our measures of anxiety from a psychometric standpoint, we will continue to foster at least one likely source of the contradictions which beset research findings on the subject of anxiety and test performance.

To illustrate the reason for my concern, I would like to give you some findings which have started to emerge from our testing of job applicants in a specific field of commission sales. Those who work in this field are subject to considerable time pressures and other stresses. Using a proprietary, unpublished test battery that we devised and validated, we derive two scores for each applicant that are relevant here. One is a measure of what we call "outward self-confidence".

The scale consists of true-false and multiple-choice questions of a moderately overt content. There is some subtlety in their phraseology. For example, true or false: "I have no trouble persuading intelligent people. It's the dumb ones that I have trouble convincing". The scoring key was determined with an a posteriori system. Nonetheless, the scale is susceptible to both faking and unwitting defensiveness. After having personally interviewed many who have taken this test, and with manager reports on many others, I can tell you that many who score high on outward self-confidence simply are unaware that underneath they are not secure.

The other scale measures what we call "underlying anxiety". It consists of projective stimuli in an objective-style format with a disguised introduction. It has undergone considerable validation. Most applicants do not perceive that it is disguised. But some do, and start to fake either right at the start, or else after they have gotten about half way through and begin to sense something wrong. We are able to detect most instances of faking. Please note that not just the highly intelligent, but also those of low intelligence with intuitive cunning, are among those clever enough to spot the disguisal and react defensively.

Both of these scales, outward self-confidence and underlying anxiety, consist of attitude-type items, as contrasted with physiological items. That is, there are no items dealing with perspiration, pulse rate, and the like. It is difficult for us to say for sure whether these scales measure state or trait, but we are pretty sure that both of them, and particularly the underlying-anxiety measure, are loaded

fairly heavily on relatively enduring trait. To what extent are both scales tapping precisely the same variable? That too remains to be established definitively. But if we talk in terms of "sense of security", I am pretty sure that there is considerable commonality between the two scales, and I will mention some empirical supporting evidence for this shortly. To avoid confusion in the use of the words "high" and "low", let us group the scores on each scale into three sub-divisions---secure, average, and insecure---and use that terminology instead of high and low.

We correlated these two sense-of-security scales on two different samples: 100 unselected job applicants, and 81 applicants who later were hired. The two correlations were virtually identical and close to 0: -.12 and -.14 respectively. Let's focus on that sample of 100, so you can convert the raw numbers directly into percents in your mind. Only 40% of that sample showed agreement on the two scales: secure on both, or average on both, or insecure on both. What kinds of mismatches were going on? Only 24 scored as secure on the underlying measure, but 39---that is, more than one and one-half times as many---scored as secure on the outward measure. If we look at the insecures, the difference is even more pronounced: only 17 scored insecure on the outward measure, whereas 41 scored insecure on the underlying measure. That's almost two and a half times as many. Even allowing for the fact that some of the seemingly-secure underlying responses were faked secure, it is apparent that if we had relied only on a more traditional, easily fakeable measure we would be missing a lot of people who are insecure under the surface.

But the picture is more complex than that. Sometimes a disguised measure can cause a boomerang. When we first started to use this test battery, we sometimes encountered a strange phenomenon: an applicant would score as insecure on the outward measure but as average or secure on the underlying measure. That did not make sense to us. We considered various possible explanations. But as we gained feedback on the performance of applicants who were hired, we worked out an explanation that definitely appears to characterize many of these seemingly-illogical score profiles. The surprising conclusion was that some job applicants will give straight answers to questions of relatively manifest purpose, but will get their guard up and answer defensively when they sense something funny going on with a disguised test. But let's put this in perspective. In our sample of 100, only 6% scored as insecure on the outward measure and as average or secure on the underlying measure. The opposite situation is far more prevalent and more serious: five times as many, that is, 30%, scored as insecure on the underlying measure but as average or secure on the outward measure.

Obviously, if one had to choose, one would be better off using just an underlying measure rather than just an outward measure. But is it necessary to choose? We have done deviant-case analysis of small samples of those who were tested, hired, and then succeeded or failed in the field. The data thus far have indicated that we can increase the accuracy of prediction by considering as insecure anyone who scored that way on <u>either</u> scale. Specifically, if someone passes the test in terms of the total score derived from a regression equation, his chances of succeeding in the field are much better than 50/50. But if that

person scores as insecure on either scale, his chances to succeed drop to only about 50/50. And this leads me to some conclusions that we are beginning to draw.

First, at least for our purposes, there is a practical reason for measuring insecurity or anxiety: it helps to sharpen test accuracy---not in terms of, say, measuring the effects of prior stress on later test performance, but rather predicting the effects of FUTURE stress on FUTURE performance. I.e., should you hire this person, and what kind of training will he need. Second, without the underlying-anxiety measure we would be missing anywhere from one-third to one-half of those high-risk cases. So 50/50 is better than nothing. But obviously, we would like to be able to determine which of those insecure individuals will succeed, and which ones won't, to further increase predictive accuracy. As best we can tell, the solution to the problem lies in the two classic examples of anxiety reactions: fight or flight, or coping vs. avoidance behavior. I believe that if we can differentiate between the copers and the avoiders, we can increase our predictive accuracy even more. There's only one problem: we don't know how to do this. Yes, there may be one or two such scales in the literature that have been developed in traditional, rational ways, but at this point it will not surprise you if I question their immunity to faking or unwitting defensiveness, and thus question their validity.

Coming back to that sample of 100 applicants, because of the logic I have just given you we decided to pool the outward security and underlying security data for each applicant in order to determine whether he was insecure. We then made analyses against other varia-

bles. For example, one can react to anxiety with either rigidity and negativism, or with dependency and compliance. Among this particular group of job applicants, dependency is the rule. We used a variable we call "compliance": the willingness of the individual to take guidance, to accept rules and ideas from others. The average compliance score for the insecures was significantly higher than for the others.

We found no difference between the insecures and others on verbal reasoning ability. On the one hand, that makes sense: we've all known intelligent individuals who are insecure. But there is also a possibly disturbing note in this finding. Severe, transient anxiety is said to reduce intellectual functioning, and I believe this to be true. But does taking our test produce severe rather than just mild anxiety? For many applicants, we know that taking this test does produce strong stress. Yet we found virtually a zero correlation between verbal reasoning and underlying anxiety. This would suggest that the measures we used for outward and underlying anxiety were not very sensitive to any transient panic states induced by the prospect of having to take this test. On the other hand, that may be good if our objective is to probe beyond test anxiety and tap the kind of anxiety that will affect actual behavior later on. You pays your money and you takes your choice.

We wondered whether the insecure group would be less ambitious in terms of money drive. One index of this involves easily fakeable asserted money goals. We found a slight but not significant tendency for the insecures to report somewhat lower monetary expectations 5 to 10 years down the road. But we also measure a related attribute which we call the "money importance" score: it reflects how much effort a person

actually is willing to expend to make lots of money, and it is not easily or often faked. On that measure we found a much lower score for the insecures, and the difference was highly significant (p .0007). So the insecures in our sample had a lower willingness to put in the time and effort required to achieve high earnings.

Coming back to test performance, we measure a variable called "self-regulation and efficiency in the use of time". The difference between the insecures and the others was trivial and not significant. Thinking perhaps that there might be some problem with the validity of that scale, we then compared the two groups in terms of the number of minutes that each person took to complete the test. But again, contrary to what we expected, there was no significant difference. We burrowed more closely into the timing data. But again no differences: identical percents of the two groups went overtime on the test, and virtually identical percents went undertime, i.e., went through too fast relative to the recommended timing guide. We don't understand why this is.

There is something that bothers me, not just about our two scales but about other findings reported in the literature for what appears to be trait tests. If one has an enduring predisposition to apperceive threat in the environment---if one has what often is called free-floating or generalized anxiety---then it seems to me that anxiety reactions should occur when various potentially ego-threatening situations arise, such as taking a test. But our tests, which apparently are trait tests to a great extent, thus far do not demonstrate that they respond to the transitory situational stress of taking a test. In fact, the growth in the development of specific-anxiety tests (e.g., 3, p. 166) suggests

that others have found this problem with generalized-anxiety tests. Is there a problem with the tests, or with the theory? I do not know. But I think we should find out.

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